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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/707,048

11/18/2003

Jianfeng Chen

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1047

26868

7590

12/04/2006

HASSE & NESBITT LLC  
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EXAMINER

ANTHONY, JOSEPH DAVID

ART UNIT

PAPER NUMBER

1714

DATE MAILED: 12/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.



## Office Action Summary

Application No.

10/707,048

Applicant(s)

CHEN ET AL.

Examiner

Joseph D. Anthony

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10/02/06.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 10-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 26-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.



## FINAL REJECTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-9 and 26-30 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Trebillon U.S. Patent Number 4,492,682 or English Language Patent Abstract Of Japan Publication Number: 62-235210 or Musselman et al. U.S. Patent Number 5,480,587.

Trebillon, and JP Abstract all teach the production of ultrafine  $\text{Al}(\text{OH})_3$  by introducing carbon dioxide gas into a sodium aluminate solution under pressure, which encompasses applicant's disclosed high gravity rotating bed apparatus, to form a gel or gel-like suspension of ultrafine modified  $\text{Al}(\text{OH})_3$ , that can subsequently be filtered and dried and then subjected to other process steps if desired, see abstract and claims of



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each reference. Said other process steps are reacting the ultrafine  $\text{Al}(\text{OH})_3$  with materials such as oxalic acid or oxalate salts, see column 3, lines 34-57 and claims 11 and 15 of Trebillon; and the English Language Abstract of Japan Publication Number: 62-235210. Applicant's claimed ultrafine oxalic-modified  $\text{Al}(\text{OH})_3$  and the fire retardant product containing them, are thus deemed to be anticipated over the individual disclosures of these two references. In the alternative, applicant's claims may differ from applicant's claimed invention in that it is unclear if the ultrafine oxalic-modified  $\text{Al}(\text{OH})_3$  as disclosed by the applied prior-art references, actually meet applicant's claimed diffraction Peaks by XRA spectrum at the locations of the listed D values and 20 Angles, since said XRA spectrum data is not directly disclosed by the applied prior-art references. Furthermore, there does not seem to be a direct teaching (i.e. by way of a specific example) to actually making or using an ultrafine oxalic-modified  $\text{Al}(\text{OH})_3$ . In any case, applicant's claims are deemed to be obvious over the individually applied prior-art references because the references teach the same basic method of making ultrafine modified  $\text{Al}(\text{OH})_3$  that applicant discloses, and clearly disclose the further reaction of ultrafine  $\text{Al}(\text{OH})_3$  with oxalic acid or an oxalate salt, to produce an ultrafine oxalic-modified  $\text{Al}(\text{OH})_3$ . As such, it would be well within the skill of the ordinary artisan to make ultrafine oxalic-modified  $\text{Al}(\text{OH})_3$  that are within applicant's claimed parameters if such is desired. Furthermore, applicant has set forth no showing of any superior and unexpected results that may or may not be present when ultrafine oxalic-modified  $\text{Al}(\text{OH})_3$  has applicant's particularly claimed XRA Spectrum.



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Musselman et al. directly teaches the use of ultrafine modified  $\text{Al}(\text{OH})_3$  as fire retardant additives for polymers, see abstract, Figs. 3-5, column 4, lines 22-31 and column 5, lines 25-60. *Please note that Musselman et al directly discloses oxalic acid as an effective organic material that may be substituted into the site created by the removal of water of hydration and/or carbonate in the  $\text{Al}(\text{OH})_3$  thus creating applicant's claimed oxalic-modified aluminium hydroxide ( $\text{Al}(\text{OH})_3$ ).* Said ultrafine oxalic-modified  $\text{Al}(\text{OH})_3$  additives are deemed to be at once envisaged by one having ordinary skill in the art, and as such, applicant's claims are deemed to be anticipated over Musselman et al.. In the alternative, applicant's claims may differ from applicant's claimed invention in that it is unclear if the ultrafine modified  $\text{Al}(\text{OH})_3$  as taught by the Musselman et al., actually meet applicant's claimed diffraction Peaks by XRA spectrum at the locations of the listed D values and 20 Angles, since said XRA spectrum data is not directly disclosed by Musselman et al.. Furthermore, there does not seem to be a direct teaching (i.e. by way of a specific example) to actually making or using an ultrafine oxalic-modified  $\text{Al}(\text{OH})_3$ . In any case, applicant's claims are deemed to be obvious over Musselman et al. disclosure since the reference clearly motivates one having ordinary skill in the art to react oxalic acid with ultrafine  $\text{Al}(\text{OH})_3$  to get a ultrafine oxalic-modified  $\text{Al}(\text{OH})_3$  product. Furthermore, applicant has set forth no showing of any superior and unexpected results that may or may not be present when ultrafine oxalic-modified  $\text{Al}(\text{OH})_3$  has applicant's particularly claimed XRA Spectrum.



### ***Response to Arguments***

4. Applicant's arguments filed 10/02/06 have been fully considered but are not persuasive to put the claims in condition for allowance for the reasons set forth above. Additional examiner comments are set forth next. Applicant principle, really sole argument for patentability, is that none of the applied prior-art references teach or suggest using oxalic acid or an oxalate salt to modify ultrafine  $\text{Al}(\text{OH})_3$  to make applicant's claimed ultrafine oxalic-modified  $\text{Al}(\text{OH})_3$  product. As clearly shown in the above prior-art rejections, this assertion of applicant is totally false.

### ***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

### ***Examiner Information***



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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Joseph D. Anthony whose telephone number is (571) 272-1117. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (571) 272-1119. The centralized FAX machine number is (571) 273-8300. All other papers received by FAX will be treated as Official communications and cannot be immediately handled by the Examiner.



**Joseph D. Anthony**  
**Primary Patent Examiner**  
**Art Unit 1714**

11/28/06